3COM SWITCH 4200G GIGABIT FAMILY

Highly affordable, entry-level managed Gigabit connectivity for medium-sized businesses and branch office networks

from top: 3Com Switch 4200G 12-Port, Switch 4200G 24-Port, Switch 4200G 48-Port, Switch 4200G PWR 24-Port

OVERVIEW

The 3Com® Switch 4200G Gigabit Family delivers quad-speed performance—10/100/1000 and 10-Gigabit–with plug-and-play "Gigabit-to-the-Desktop" switching and rich, easy-to-use features perfect for cost-conscious medium-sized businesses wanting a fast, efficient network upgrade.

Layer 2 switching along with Layer 3 static routes make these ideal for wiring closet, workgroup connectivity. For great flexibility, four of the ports are dual-personality, operating either as 10/100/1000 or SFP-based fiber. These switches accommodate one or two extra optional 10-Gigabit high-speed links, enabling connectivity to a core network or to high-performance servers.

Enterprise-class security features include IEEE 802.1X network login, SSL encrypted device log-in and Access Control Lists. These switches come with a limited lifetime warranty and next business day, advanced hardware replacement in most regions.

Family switch models—clusterable in any combination up to 32 units—are:

> 3Com Switch 4200G 12-Port:
12 auto-negotiating 10BASE-T/100BASE-TX/1000BASE-T ports, 4 of which are dual-personality 10/100/1000 or SFP Gigabit; 1 10-Gigabit slot

> 3Com Switch 4200G 24-Port:
24 auto-negotiating 10BASE-T/100BASE-TX/1000BASE-T ports, 4 of which are dual-personality 10/100/1000 or SFP Gigabit; 2 10-Gigabit slots

> 3Com Switch 4200G PWR 24-Port:
24 auto-negotiating 10BASE-T/100BASE-TX/1000BASE-T ports, 4 of which are dual-personality 10/100/1000 or SFP Gigabit; 2 10-Gigabit slots; Power over Ethernet on all 10/100/1000 ports

> 3Com Switch 4200G 48-Port:
48 auto-negotiating 10BASE-T/100BASE-TX/1000BASE-T ports, 4 of which are dual-personality 10/100/1000 or SFP Gigabit; 2 10-Gigabit slots

KEY BENEFITS

AFFORDABLE MANAGED GIGABIT CONNECTIVITY

The Switch 4200G family is 3Com's most economical Gigabit managed stackable switch line. Achieve up to a 10-times performance improvement with Gigabit, at prices many still associate with 10/100 switches.

FUTURE PROOF NETWORKING

3Com Switch 4200G switches provide outstanding investment protection by providing quad-speed 10/100/1000 Mbps and 10-Gigabit switching. Gradually move users to Gigabit speeds, with full backward compatibility with slower 100 Mbps and 10 Mbps networking.

Switch 4200G models support 10-Gigabit uplinks to tie into an evolving core network infrastructure. They are XENPAK transceiver ready, requiring no additional module for 10-Gigabit XENPAK support. A module for 10-Gigabit XFP support is also available.

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KEY BENEFITS (continued)

EMPOWERS APPLICATION CONVERGENCE

The Switch 4200G family combines high performance Gigabit switching, QoS and traffic management

features to help ensure essential applications get the appropriate priority for efficient utilization of network resources.

The PWR model with available Power over Ethernet readies your network for running converged applications such as voice, wireless and video surveillance over the network.

ENHANCES MANAGEMENT AND CONTROL

The Switch 4200G family is easy to use and manage, designed to increase business productivity by reliably supporting business applications. Cluster together up to 32 devices for easy administration, with single IP management across 3Com switching lines.

DELIVERS HIGH PERFORMANCE

No need to buy new switches when additional network performance is needed, as the Switch 4200G family features 12-, 24- and 48-port models, providing aggregate switching capacity up to 136 Gbps and 101.2 Mpps performance on the 48-port model.

GIVES FLEXIBLE, BASIC LAYER 3 ROUTING

Layer 3 static routing, with 32 definable static routes, gives this switch added flexibility to handle more complex networking needs.

REDUNDANT POWER SYSTEM SUPPORT

The 3Com Switch 4200G PWR model supports a redundant power system (RPS) connection.

For this model, the RPS unit delivers redundant power to switches so there is continued operation should the switch unit power supply fail. This allows for continuous operation of advanced Enterprise networks, particularly important for converged networks running IP phones on the network.

3Com H3C RPS Systems

3Com switches are compatible with 3Com H3C® RPS solutions. These are enterprise-class power redundancy systems that work with many 3Com fixed-configuration switches. 3Com Corporation manufactures networking equipment under the H3C brand for sale into many markets.

The H3C RPS 1000 is 1U high and provides multiple power output connections to support multiple switch units at the same time. Two power rectifiers can be installed for 1+1 load sharing and power redundancy. It supports switches with -54V RPS connections, and delivers sufficient power to fully provision all PoE ports of a switch with full power redundancy.

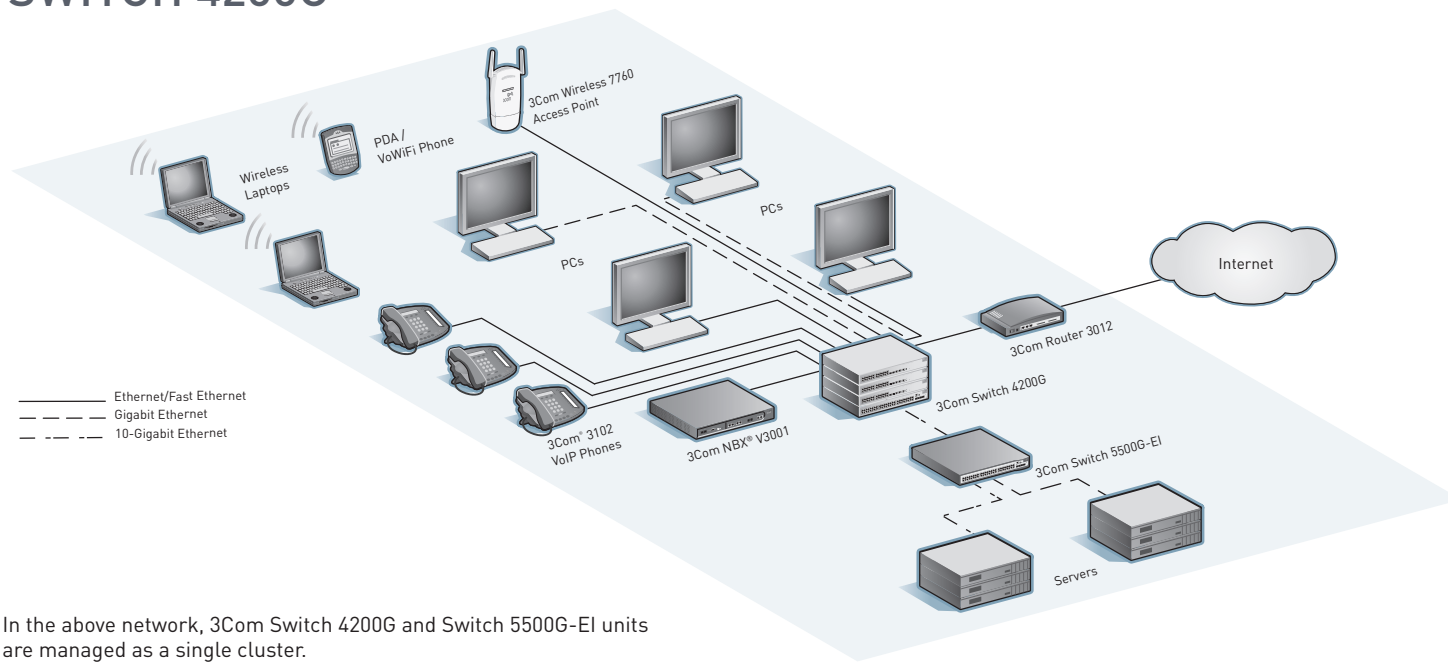
SUPPORTED BY LIMITED LIFETIME HARDWARE WARRANTY

3Com gives a Limited Lifetime Hardware Warranty on the Switch 4200G Gigabit Family. Also provided is Advanced Hardware Replacement, with next business day shipment available in most regions, and telephone support and limited lifetime software updates.

FEATURE HIGHLIGHTS

FEATURE	DESCRIPTION
IEEE 802.1X network access control	Standards-based security combined with RADIUS authentication
RADIUS Authenticated Device Access	Authentication of attached devices via MAC address for an additional (RADA) level of endpoint security.
Access Control Lists (ACLs)	Enable usage policies at each point of access to the network via the switch
Bandwidth rate limiting and four queues	Enforce controls on each port for efficient use of network resources and priority prioritization of delay-sensitive traffic.
"Dual-personality" Gigabit Ethernet interfaces	Choice of copper or fiber media for flexible uplinks.
Multicast filtering with IGMP snooping versions 1, 2 and 3	Eliminate unneeded traffic on the network, improve network efficiency.
Spanning Tree, Rapid Spanning Tree, and Multiple Spanning Tree support	Improve network resiliency and availability.
Power over Ethernet models	Prepare the network for Voice over IP or wireless access points.
100 MB and 1000 MB fiber connections	Use SFPs to add fiber connections to the network. Dual-speed support makes network migration easier.
Secure management	Authentication and encryption of management traffic via Secure Shell (SSH) version 2, HTTPS and SNMP version 3.
3Com Operating System	Proven software featured in 3Com premium enterprise switches such as the Switch 4500, 5500, 7700 and 8800 families and enterprise routers like the Router 6000, 5000 and 3000 families.
Service and Support	Backed by 3Com Global Services and authorized partners with demonstrated expertise in network assessment, implementation and maintenance

SMALL-TO-MEDIUM LAN CONFIGURATION SUPPORTED BY THE SWITCH 4200G



In the above network, 3Com Switch 4200G and Switch 5500G-EI units are managed as a single cluster.

PRODUCT WARRANTY AND OTHER SERVICES

Warranty	3Com Limited Lifetime Warranty. For as long as the original end user owns the product, or for five years after 3Com discontinues the of sale of the product, whichever occurs first.
Hardware coverage	Covers the complete unit including power supply and fan.
In-warranty hardware replacement*	Advanced Hardware Replacement of hardware for the duration of the warranty. In the US 48 contiguous states this is same-day ship with next business day delivery when call received before noon Pacific time. For Canada, Alaska and Hawaii, this is same-day ship when call received before noon Pacific time. For the rest of the world, it is next-business-day ship. Actual delivery times may vary depending on customer location. Reasonable commercial efforts apply.
Software coverage	90 days for media replacement.
Software updates*	Access to releases with incremental software features and bug fixes. For the Switch 4200G, updates are all releases within the licensed 3Com OS software level.
Telephone support*	Technical support via phone for 90 days.
Online Knowledgebase support*	Access to online troubleshooting tool for the duration of the warranty.

* These services are not included as part of the Warranty and 3Com reserves the right to modify or cancel this offering at any time, without advance notice. This offering is not available where prohibited by law. Services are effective at warranty start date, and are enabled with product registration. Customers receive a user ID with eSupport registration.

SERVICE AND SUPPORT

3Com Global Services offers the resources and talents of a major corporation plus more than two decades of experience in resolving network challenges and delivering business benefits to enterprises around the world.

Global support with a personalized focus in the local language helps drive productivity and minimize expenses. Because 3Com understands both the technology and the business, we're the partner you need to maintain your competitive edge and remain strong.

Additional Service, Support and Training Offerings

3Com Guardian℠ Maintenance Service
This service provides comprehensive on-site support and includes advance hardware replacement, expedited telephone technical support and software upgrades

3Com Express℠ Maintenance Service
This service provides speedy access to 3Com shipment of advance hardware replacements (including a four-hour option), expedited telephone technical support and software upgrades

Network Health Check
An activity-auditing service focused on improving network performance and productivity

Includes traffic monitoring, utilization analysis, problem identification, and asset deployment recommendations

Extensive report provides blueprint for action

Network Installation and Implementation Services
Experts set-up and configure equipment and integrate technologies to maximize functionality and minimize business disruption

For large and complex sites, implementation services include personalized configuration, project management, extended testing and coaching on network administration

Project Management
Provides extra focus and resources that special projects demand

3Com engineers manage entire process from initial specifications to post-project review

Using structured methodology, requirements are identified, projects planned and progress of implementation activities tracked

3Com University
Self-paced and instructor-led technology and product courses, plus certification programs

For additional information, please visit **www.3com.com/services**

SPECIFICATIONS

All information in this section is relevant to all members of the 3Com Switch 4200G Gigabit family, unless otherwise stated.

CONNECTORS

12-port
12 auto-negotiating 10BASE-T/100BASE-TX/1000BASE-T ports, 4 of which are dual-personality 10/100/1000 or SFP ports

1 rear slot for direct 10-Gigabit XENPAK transceiver or for 10-Gigabit module (XFP)

24-port
24 auto-negotiating 10BASE-T/100BASE-TX/1000BASE-T ports, 4 of which are dual-personality 10/100/1000 or SFP ports

2 rear slots for direct 10-Gigabit XENPAK transceiver or for 10-Gigabit module (XFP)

PWR version supports Power over Ethernet on 10/100/1000 ports

48-port
48 auto-negotiating 10BASE-T/100BASE-TX/1000BASE-T ports, 4 of which are dual-personality 10/100/1000 or Gigabit ports

2 rear slots for direct 10-Gigabit XENPAK transceiver or for 10-Gigabit module (XFP)

PERFORMANCE

12-port
44 Gbps switching capacity (max.), 32.7 Mpps forwarding rate (max.)

24-port
88 Gbps switching capacity (max.), 65.5 Mpps forwarding rate (max.)

48-port
136 Gbps switching capacity, (max.), 101.2 Mpps forwarding rate (max.)

All models
Wirespeed performance across ports in full mesh configuration

Store-and-forward switching; latency <10 µs

Support for Gigabit and Fast Ethernet dual-mode SFP transceivers

LAYER 2 SWITCHING

16K MAC addresses in address table

1,024 static MAC addresses (in addition to default address)

Jumbo Frame support

4,094 Port-based VLANs (IEEE 802.1Q)

IEEE 802.3ad Link Aggregation Control Protocol (LACP); automated and manual aggregation

GARP VLAN Registration Protocol (GVRP)

Local switch log-in password

Switch login via RADIUS

Trusted IP Management Addresses

Isolated port in VLAN

Blackhole MAC address

Auto-VLAN assignment based on log-in

6 trunk groups per switch

8 10/100 ports or 2 Gigabit ports per group

Auto-negotiation of port speed and duplex IEEE 802.3x full-duplex flow control

Back pressure flow control for half duplex

IEEE 802.1D Spanning Tree Protocol (STP)

IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)

Bridge Protocol Data Unit (BPDU) protection

Internet Group Management Protocol (IGMP) snooping (v1, 2 and 3) on Layer 2 interfaces

Filtering for 128 multicast groups

IEEE 802.1s Multiple Spanning Tree Protocol
Spanning Tree enable / disable per port

Spanning Tree fast-start mode

LAYER 3 SWITCHING

DHCP snooping

Hardware based routing

32 static routes

8 IP interfaces

CONVERGENCE

Eight hardware queues per port

Weighted Round Robin queuing

Strict Priority queuing

IEEE 802.1p Class of Service/Quality of Service (CoS/QoS) on egress

Traffic shaping with port-based egress rate limiting

Application and protocol blocking

Auto VLAN assignment for voice traffic determined by vendor OUI

SECURITY

IEEE 802.1X Network login user authentication:

- EAP over LAN (EAPoL) transport with EAP-MD5, PAP, CHAP, PEAP and EAP-TLS authentication
- Multiple users per port
- 1,024 online users, max.

Local and RADIUS server authentication

RADIUS session accounting

TACACS+ network login

Automatic VLAN assignment via RADIUS server

Wirespeed packet filtering in hardware

ACLs filter at Layers 2, 3 and 4:

- Source/destination MAC address
- Ethernet type
- Source/destination IP address
- Source/destination TCP port
- Source/destination UDP port

RADIUS Authenticated Device Access (RADA): authenticate devices based on MAC address against RADIUS server and assign VLAN ID and ACL

Port-based MAC address Disconnect

Unknown Device (DUD)

ARP attack detection and suppression

Web authentication

IEEE 802.1X user authentication of switch management on switch Telnet and console sessions; four access privilege levels

Hierarchical management and password protection for management interface

SNMP v3 encryption

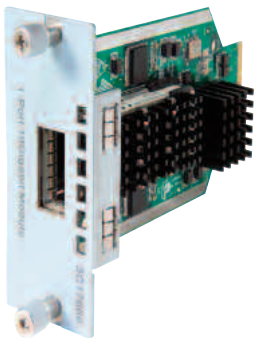
SSH v2

Denial of Service protection

CLUSTERED STACKING

Single IP address and management interfaces for centralized control

Up to 32 devices per cluster across 3Com Switch 4210, 4200G, 4500, 4500G, 4800G, 5500 and 5500G devices



The 3Com Switch 4200G 1-Port 10-Gigabit Module (XFP) 3C17666 shown above adds one XFP-based 10-Gigabit port to the rear of a Switch 4200G system as a high-bandwidth link for connections to high speed network backbones or other peer switches or servers. An XFP transceiver, sold separately, is required to support the desired connection's fiber media.

SPECIFICATIONS

MANAGEMENT
CLI via console or Telnet
Embedded web management interface
System configuration with SNMP v1, 2c and 3
Comprehensive statistics, including ACL/QoS and IP interface
IPv6 management including pingv6, tracertv6, Telnetv6, TFTPv6, DNSv6 and ARPv6
Remote Monitoring (RMON) groups statistics, history, alarm and events
Many-to-1 port mirroring
Detailed alarm and debug information
Supports ping, remote ping and traceroute
Configuration file for backup and restore; multiple configuration files available
DHCP Relay and UDP Helper
System file transfer mechanisms: Xmodem, FTP, Trivial FTP (TFTP), Secure FTP (SFTP)
Link Layer Discovery Protocol (LLDP and LLDP-MED)

3Com management applications:
- 3Com Enterprise Management Suite for flexible, extensible management in advanced enterprise IT environments
- 3Com Intelligent Management Center, Enterprise Edition for comprehensive management with the rich functionality required to meet the needs of advanced Enterprise networks
- 3Com Network Director for complete, turn-key network management for the enterprise
- 3Com Network Supervisor for basic, turn-key network management for mid-market businesses
- 3Com Network Access Manager for IEEE 802.1X and RADA integration with IAS/Active Directory
- 3Com Switch Manager for virtual clustering support across 3Com switch families

DIMENSIONS
Height: 4.4 cm (1.7 in or 1 RU)
Width: 44.2 cm (17.4 in)
Depth: 30.0 cm (11.8 in); 43.0 cm (16.9 in), PWR model
Weight:
- 12-port: 3.8 kg (8.4 lb)
- 24-port: 4.1 kg (9.0 lb)
- 24-port PWR: 6.9 kg (15.2 lb)
- 48-port: 4.7 kg (10.4 lb)

POWER SUPPLY
AC line frequency: 50/60 Hz
AC input voltage: 100 to 240 Volts
DC input voltage: –52 to –55 Volts (PWR model only)
Current Rating:
- 12- and 24-port: 1.5A
- 24-port PWR: 8A (AC), 20A (DC)
- 48-port: 2A

Power consumption (max)
12-port: 30 W
24-port: 47 W
24-port PWR: 73 W
48-port: 98 W

ENVIRONMENTAL REQUIREMENTS
Operating temperature: 0° to 40°C (32° to 104°F)
Storage temperature: –10° to 70°C (14° to 158°F)
Humidity (operating and storage): 10% to 95% non-condensing
Standard: EN 60068 (IEC 68)

HEAT DISSIPATION (MAX)
12-port: 101 BTU/hour
24-port: 161 BTU/hour
24-port PWR: 249 BTU/hour
48-port: 333 BTU/hour

RELIABILITY
(MTBF @ 25°C)
12-port: 59 years (522,000 hours)
24-port: 48 years (421,000 hours)
24-port PWR: 21 years (181,000 hours)
48-port: 30 years (261,000 hours)
10-Gigabit module: 75 years (662,000 hours)

IEEE STANDARDS SUPPORTED
IEEE 802.1D Spanning Tree Protocol (STP)
IEEE 802.1p QoS
IEEE 802.1Q VLANs / VLAN tagging
IEEE 802.1s Multiple Spanning Tree
IEEE 802.1w Rapid Spanning Tree
IEEE 802.1X Network Login Security
IEEE 802.3 Ethernet
IEEE 802.3ab Gigabit Ethernet 1000BASE-T
IEEE 802.3ad Link Aggregation (unit wide)
IEEE 802.3af Power over Ethernet (PWR model only)
IEEE 802.3ae 10-Gigabit Ethernet
IEEE 802.3i 10BASE-T
IEEE 802.3u Fast Ethernet
IEEE 802.3x Flow control
IEEE 802.3z Gigabit Ethernet 1000BASE-X

IETF STANDARDS
RFC 768 UDP Helpe/ Relay
RFC 783 Remote software upgrade TFTP
RFC 791 IP
RFC 792 ICMP Query, support as defined in RFC 1812
RFC 793 TCP
RFC 826 Address Resolution Protocol (ARP)
RFC 854 Telnet
RFC 951 BootP Bootstrap Protocol
RFC 1157 SNMP v1/v2
RFC 1305 Network Time Protocol (NTP) v3
RFC 1350 Remote software upgrade TFTP
RFC 1519 Classless Inter-Domain Routing (CIDR)
RFC 1812 Compliant "Requirements for IP Version 4 Routers"
RFC 1886 DNS Extensions to support IPv6
RFC 2131 DHCP client
RFC 2236 Internet Group Management Protocol (IGMP) Snooping v2
RFC 2284 Network Login 802.1X; EAP over LAN RFC 2284 Transport
RFC 2461 Neighbor Discovery for IPv6/ND
RFC 2463 ICMPv6 for IPv6/ICMP6
RFC 2474 DSCP Diffserv L3/L4 by IP source/dest, tcp/udp port, protocol
RFC 2597 DSCP Diffserv Expedited Forwarding (EF)
RFC 2598 DSCP Diffserv Assured Forwarding (AF)
RFC 2616 HTTP compatibility
RFC 2819 RMON 4 Groups - Stats, History, Alarm, Events (1,2,3,9)
RFC 2865 Remote Authentication Dial-In User RADIUS
RFC 2866 Radius RFC 2138/Accounting RFC 2866
RFC 3376 Internet Group Management Protocol (IGMP) Snooping v3 message types

SPECIFICATIONS (continued)

MANAGEMENT, INCLUDING MIBS SUPPORTED
RFC 1212 Concise MIB definitions
RFC 1215 MIB Monitoring Trap Registration
RFC 1213 MIB II
RFC 1398 Ethernet MIB
RFC 1493 Bridge MIB
RFC 1757 RMON I MIB
RFC 2096 IP Forwarding Table MIB
RFC 2233 Interfaces MIB
RFC 2571 SNMP-Framework-MIB
RFC 2572 SNMP-MPD-MIB
RFC 2573 SNMP Notification MIB/Target MIB
RFC 2574 SNMP v3 MIB
RFC 2575 SNMP Access Control
RFC 2618 MIB BulkConf-RADIUS Servers, BulkConf-Port Security
RFC 2620 MIB
RFC 2665 EtherLike MIB
RFC 2668 MAU MIB
RFC 2674 Bridge MIB Extensions: Q-Bridge, P-Bridge, Extensions
RFC 2737 Entity-MIB
RFC 2819 RMON I MIB
RFC 2863 MIB Disc-Sizing
RFC 2925 MIB Discovery, Topology
RFC 3414 SNMP-User-based-SM-MIB
RFC 3415 SNMP-View-based-ACM-MIB
RFC 3418 SNMP v2
RFC 3621 Power-ethernet MIB
IEEE 802.1X MIB

EMISSIONS/AGENCY APPROVALS
EN 55022: 1998+A1:2000+A2:2003 Class A
FCC Part 15: 2004 Class A
ICES-003: 2004 Class A
VCCI: 2004 Class A
CISPR 22: 2003 Class A
IEC 61000-3-2:2001/EN 61000-3-2:2000
IEC 61000-3-3:2002/EN 61000-3-3: 1995+A1:2001
Korean EMI Class A

IMMUNITY
EN 55024: 1998+A1:2001+A2:2003

SAFETY AGENCY CERTIFICATIONS
UL 60950-1:2003
EN 60950-1:2001
CSA 2.22 # 60950-1:2003
IEC 60950-1:2001
EU RoHS Compliant

WARRANTY AND OTHER SERVICES
Limited Lifetime Hardware Warranty, including fans and power supply
Limited Software Warranty for 90 days
Advance Hardware Replacement with Next Business Day shipment in most regions
Limited Lifetime software updates
90 days of telephone technical support
Refer to www.3com.com/warranty for details.

3Com Switch 4200G 48-Port

ORDERING INFORMATION

PRODUCT DESCRIPTION	3COM SKU
3Com Switch 4200G 12-Port	3CR17660-91
3Com Switch 4200G 24-Port	3CR17661-91
3Com Switch 4200G PWR 24-Port	3CR17671-91
3Com Switch 4200G 48-Port	3CR17662-91
MODULE	
3Com Switch 4200G 1-Port 10-Gigabit Module (XFP)	3C17666
GIGABIT SFP TRANSCEIVERS	
1000BASE-SX SFP	3CSFP91
1000BASE-LX SFP	3CSFP92
1000BASE-LH SFP	3CSFP97
FAST ETHERNET SFP TRANSCEIVERS	
3Com 100BASE-FX SFP (Dual-Mode)	3CSFP9-81
3Com 100BASE-LX SFP (Dual-Mode)	3CSFP9-82
10-GIGABIT XENPAK TRANSCEIVERS	
10GBASE-LX4	3CXENPAK91
10GBASE-LR	3CXENPAK92
10GBASE-SR	3CXENPAK94
10GBASE-CX4	3CXENPAK95
10GBASE-ER	3CXENPAK96

PRODUCT DESCRIPTION	3COM SKU
10-GIGABIT XFP TRANSCEIVERS	
10GBASE-LR	0231A438
10GBASE-SR	0231A494
10GBASE-CX4	3CXFP95
10GBASE-ER	3CXFP96
3COM GLOBAL SERVICES	
3Com Network Health Check, Installation Services and Express Maintenance	www.3com.com/services_quote
3Com University Courses	www.3com.com/3comu

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